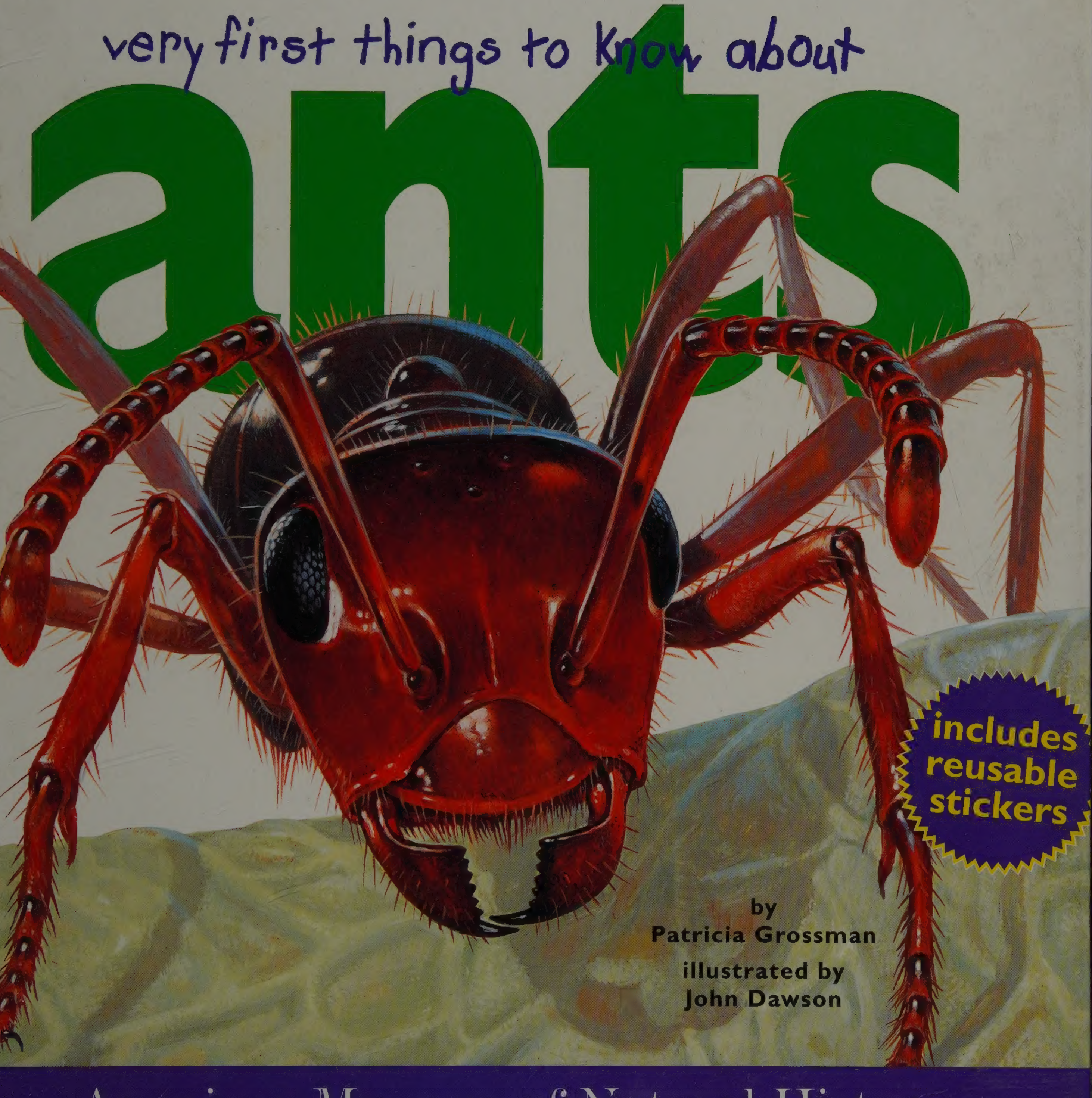


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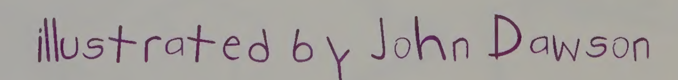


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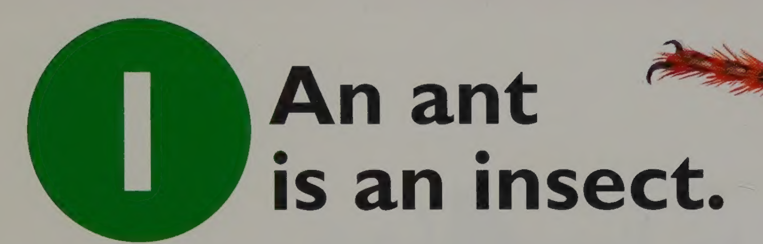
very first things to know about

ants

by Patricia Grossman



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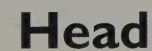


1 An ant is an insect.

Insects are small animals with six legs, three on each side of their body. An ant's body is made up of a head, thorax, petiole, and gaster.

eye

antennae



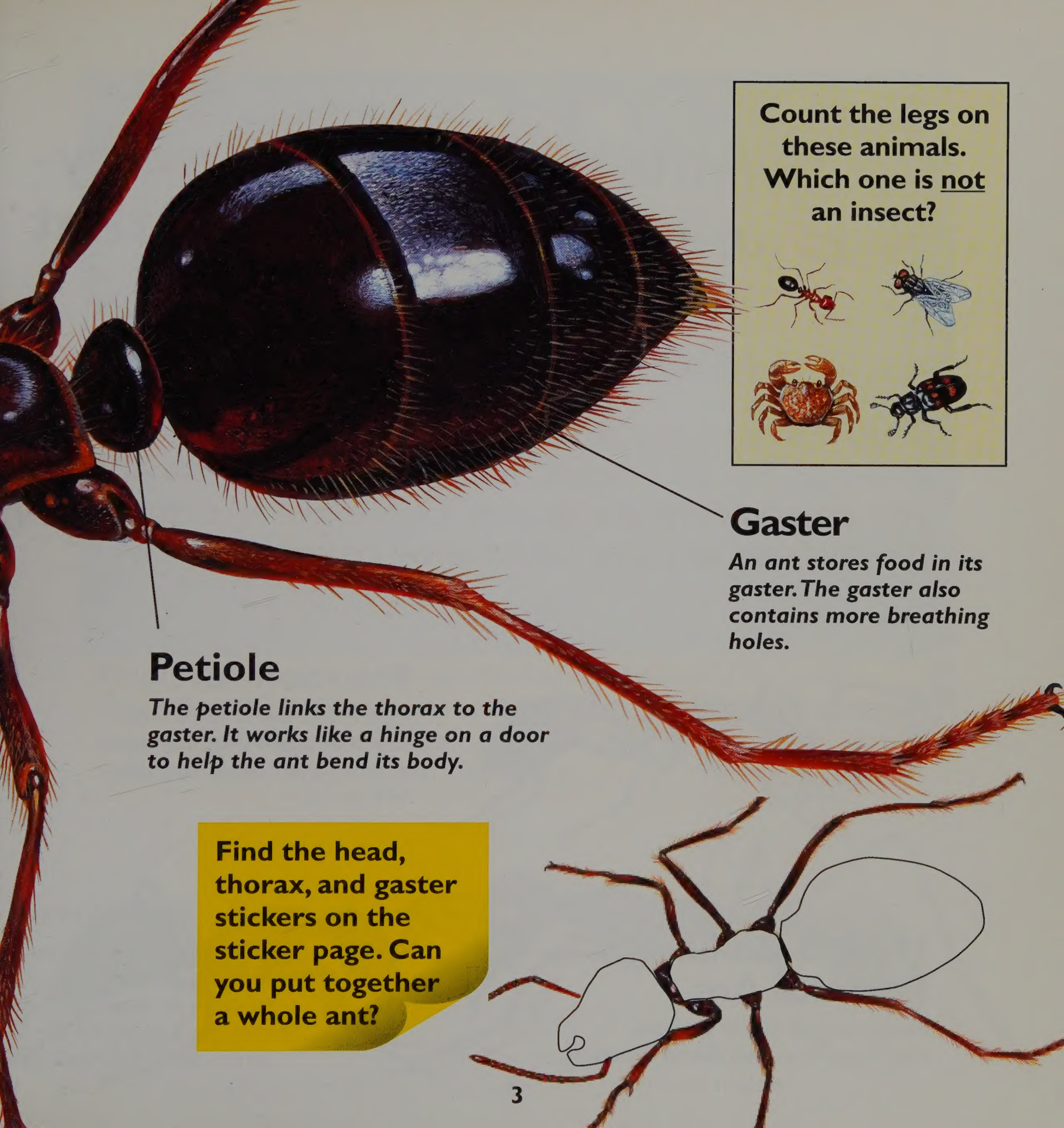
Head

An ant uses its eyes and antennae to sense the world around it. Its mouthparts are for digging, carrying, and eating.

Claws on an ant's feet help it to climb.

Thorax

Ants breathe through tiny holes in their thorax. All six of the ant's legs are joined to its thorax as well.


Count the legs on these animals. Which one is not an insect?
Gaster
An ant stores food in its gaster. The gaster also contains more breathing holes.
Petiole
The petiole links the thorax to the gaster. It works like a hinge on a door to help the ant bend its body.
Find the head, thorax, and gaster stickers on the sticker page. Can you put together a whole ant?

2 Ants can be found everywhere except places that are always freezing and snowy.

There are many different kinds of ants. Some grow to be 2½ inches long. Others are so small you can barely see them. There are more ants on Earth than anyone could ever count.



Pharaoh Ant

A pharaoh ant is sometimes called a "sugar ant," because it likes to eat cookie crumbs and candy.

Mound-Building Formica Ant

Formica ants live in Europe, northern Asia, and North America.



North America
Europe
Asia
Africa
South America
Australia

Point to the parts of the world that are too cold for ants. Then find the pharaoh ant and the army ant on the sticker page. Place the pharaoh ant in North America and the army ant in South America.

Army Ant

Army ants live in places where the weather is hot and wet, such as parts of South America. They march together in a huge group.



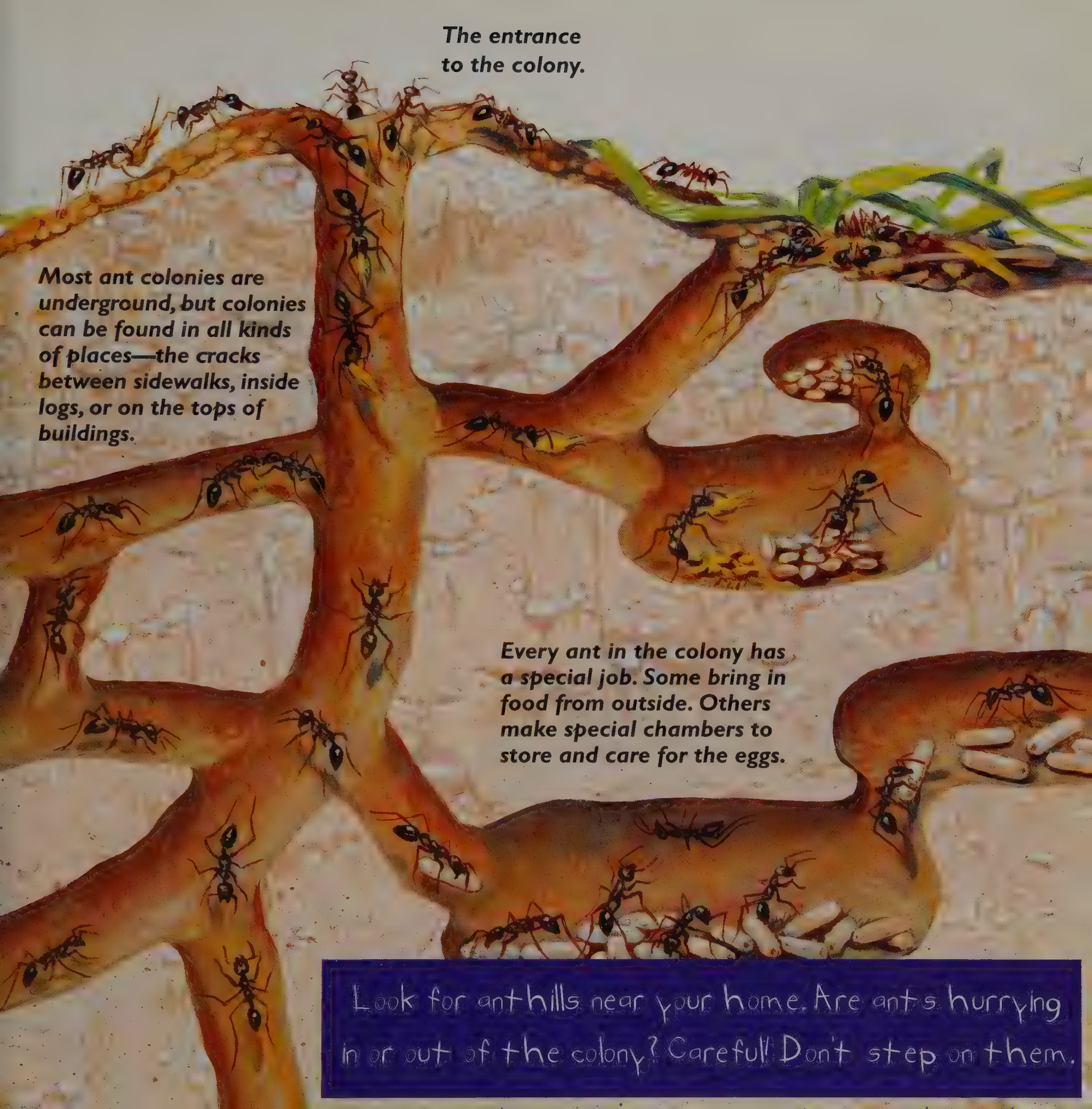
3 Ants live in colonies. Ant colonies are like busy cities.

Ants are social insects. They live and work together in groups called colonies. An ant colony can be home to a few ants or as many as a million ants.

Rooms of an ant colony are called chambers. They are different sizes, and at different levels. Ants build tunnels to connect the chambers.



With your finger, help an ant find its way from the entrance of the colony to each chamber. How many chambers are there?


The entrance to the colony.
Most ant colonies are underground, but colonies can be found in all kinds of places—the cracks between sidewalks, inside logs, or on the tops of buildings.
Every ant in the colony has a special job. Some bring in food from outside. Others make special chambers to store and care for the eggs.
Look for anthills near your home. Are ants hurrying in or out of the colony? Careful! Don't step on them.

4 Every ant colony has three types of ants.

The three types of ants that make up an ant colony are the queen, other female ants called workers, and males.



Females have larger heads than males.

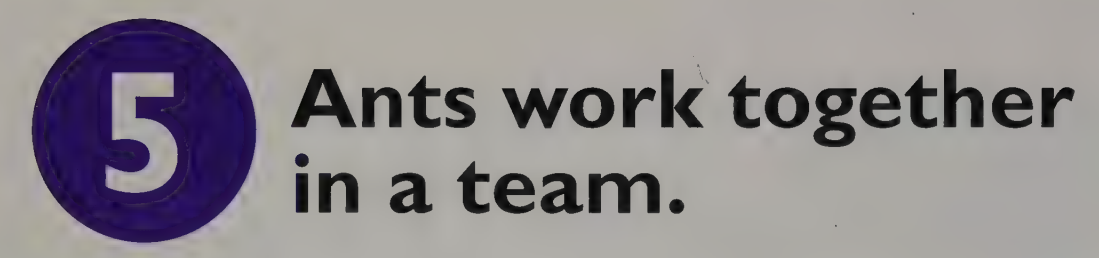
Find a queen, male, and worker ant on the sticker page. Place each sticker next to the type of ant it matches on this page.



Some ants born in the colony will be queens. They'll have wings so they can fly away to start new colonies. After they mate with a male, their wings will drop off, and they will lay eggs.

The queen is the biggest ant in the colony.

All males have wings so they can leave the colony to mate with a queen. Male ants do not live longer than a month.



5 Ants work together in a team.

Most ants in a colony are worker ants. Some workers gather food, some dig tunnels, and still others feed the queen. They all seem to know what job to do.

These lucky ants have found a cookie crumb. Together they will take it back to the colony.

Can you think of some ways people work together in a team?

Ants have different ways of telling each other they have found food. They may tap one another on the head with their antennae. They may also lay down a scent trail—a special smell that says to other ants, "Come this way!"

It's time for a colony feast! An ant with food can feed eight to ten other ants.



6 Queen ants rule the colonies. They are treated like royalty!

Every ant colony has a queen. Her job is to lay eggs so the colony will grow.



This worker is giving the queen a bath. It does this by licking her.

The queen is the only one in the colony who can lay eggs. She might live to be twenty-five years old. She will have tens of thousands of baby ants during her lifetime.


The queen must stay in the colony all the time to lay eggs. She relies on the workers to feed her.
On the sticker page, find a worker ant to help the other worker give the queen a bath.

7 A busy ant colony always has many babies growing in its chambers.

The queen lays the eggs, but the workers care for them.



The eggs will grow into larvae. Nurse ants feed and clean the larvae. Next, they will carry the larvae up to a chamber near the top of the colony.

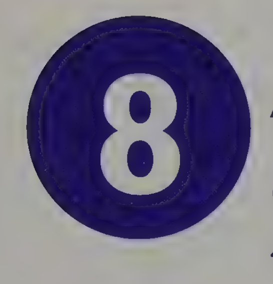
Chambers near the top of the colony are dry—a good place for larvae to grow. Some kinds of ant larvae spin their own cocoons. A cocoon is a covering, like a blanket. Ants growing inside their cocoons are called pupae.

After two or three weeks, a tiny ant makes a hole in its cocoon. A nurse ant uses her legs to make the hole bigger. A baby ant is about to be born! Workers look after the baby ants until they are strong enough to take care of themselves.

Here are two adult worker ants and a baby ant. How is the baby ant different from the adult?



Look for the cocoon on the sticker page. Place it in the chamber where the nurse ants keep the pupae.



An ant uses its antennae to touch, taste, and smell.

Ants also use their antennae to "talk" to one another.

When an ant is hungry, it uses its antennae to tap the food gatherer on the head.



People use their noses to smell, but ants use their antennae. This ant smells the sweet liquid of the plant leaf.

This ant is using its antennae to feel its way as it walks. Point to the ant's antennae. Point to its legs.



Ants have many different ways of finding and eating food.

Like all living creatures, ants need food for energy. They gather food in their own special ways. Some ants are like farmers. Some are like thieves!

These ants eat human food they "steal" from people's homes or yards.



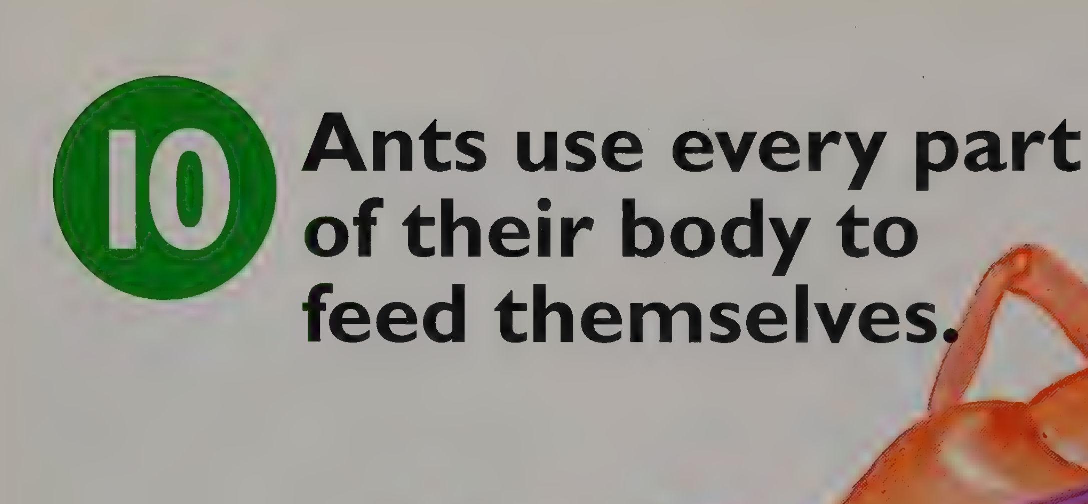
This leaf-cutting ant is like a farmer. It will take a leaf back to the colony and use it to make an indoor garden. The ants chew the leaf to make a paste upon which fungi, such as mushrooms, will grow.



Formica ants drink the sweet juices made by insects called aphids.



Find an ant carrying food on the sticker page. Which chamber would you like it to go to? Follow the path the ant might take. Then place the ant in the chamber where you want it to rest.



10 Ants use every part of their body to feed themselves.

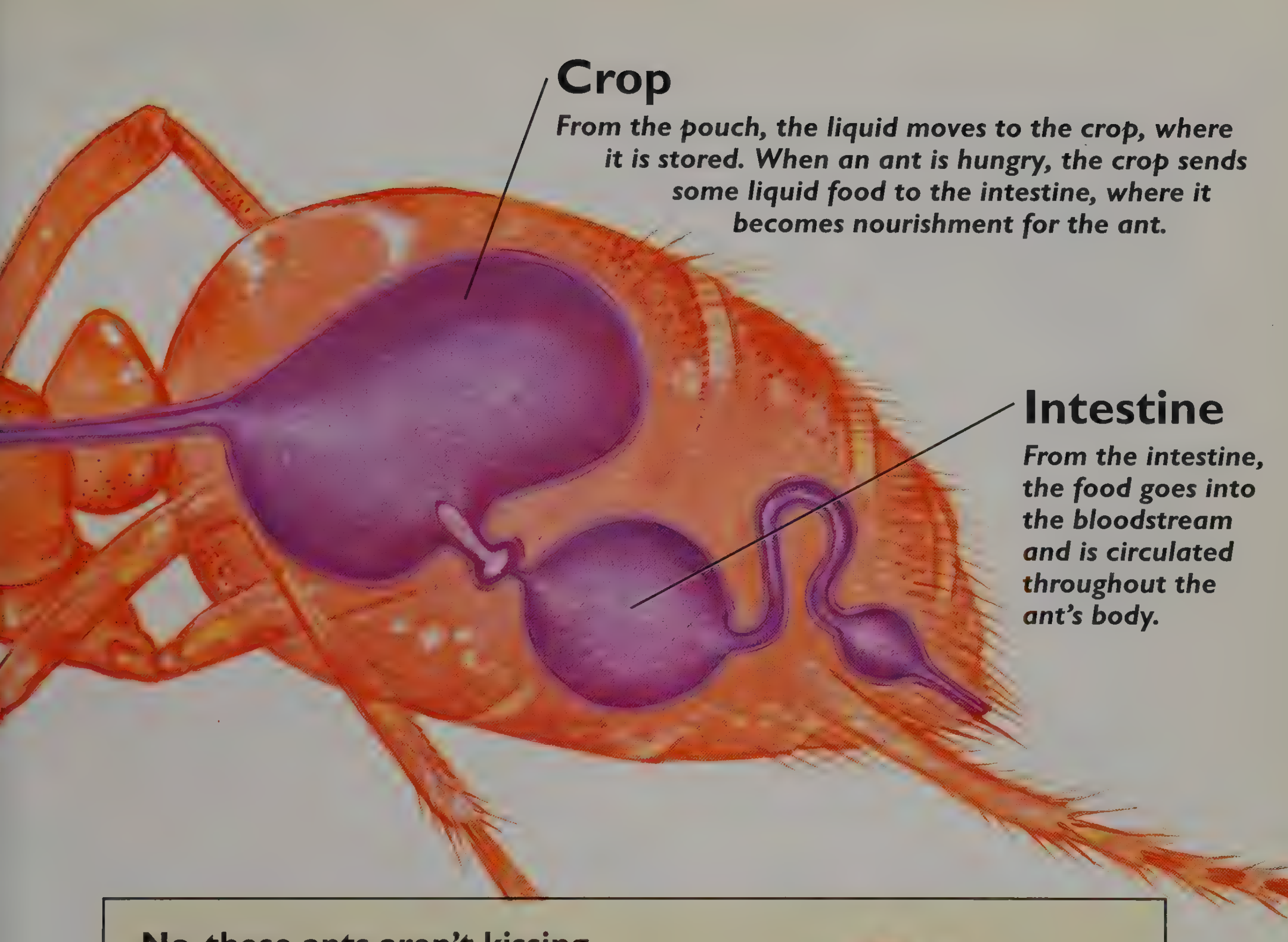
Jaws

An ant has two sets of jaws. The outer set, called mandibles, move from side to side. An ant uses them to lift and carry things, such as food.

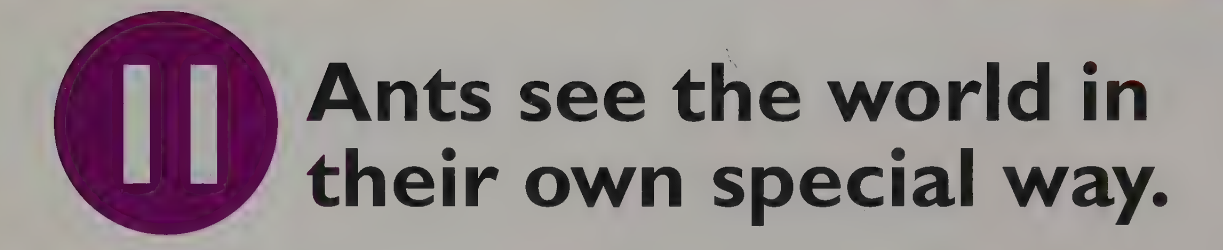
Ants chew with their inner jaws, which are called maxillae.

Food Pouch

After an ant chews, the food moves to the food pouch. Inside the pouch, special muscles squeeze the liquid out of the food. The ant then spits out what's left.



No, these ants aren't kissing. They're eating. One ant with a full crop feeds the other ant. How does a hungry ant tell a food gatherer it's time to eat? Turn back to page 16 if you can't remember.

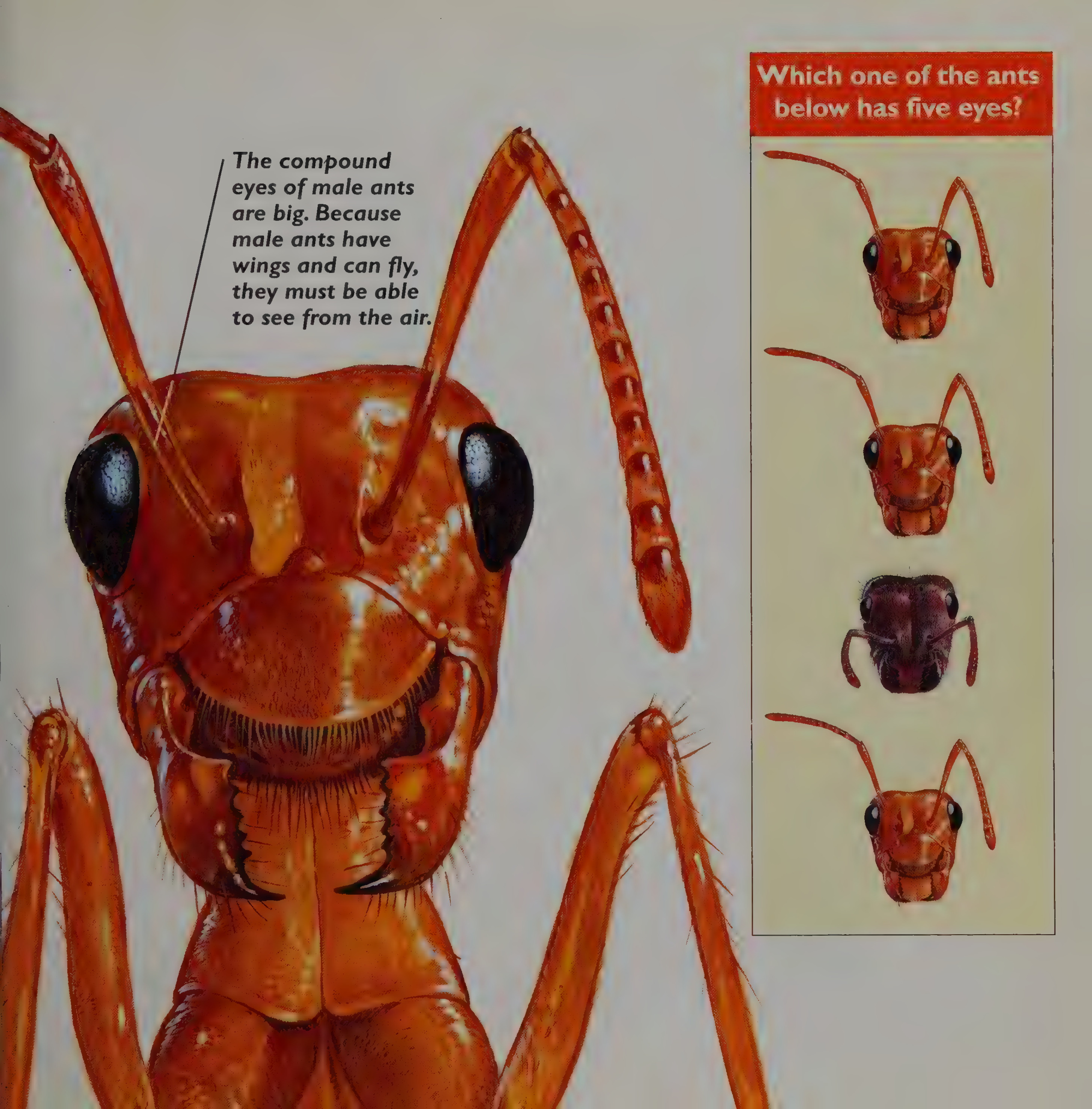


11 Ants see the world in their own special way.

All ants have compound eyes, one on each side of their head.

Compound eyes are like many little eyes in one. When an ant looks at something, it sees that thing broken into many tiny pieces.

Some ants have three extra eyes called ocelli. With these eyes, an ant can tell the difference between light and dark.


The compound eyes of male ants are big. Because male ants have wings and can fly, they must be able to see from the air.
Which one of the ants below has five eyes?

12 Ants can lift things much larger than themselves.

Seeds, leaves, twigs, and pine needles are all much bigger than ants. They also weigh more—yet ants can lift them with ease.

This ant has picked up a twig to carry back to the colony where it lives. The twig will be used to repair the entrance to the colony.



Which of these four things do you think ants would <u>not</u> be able to carry?

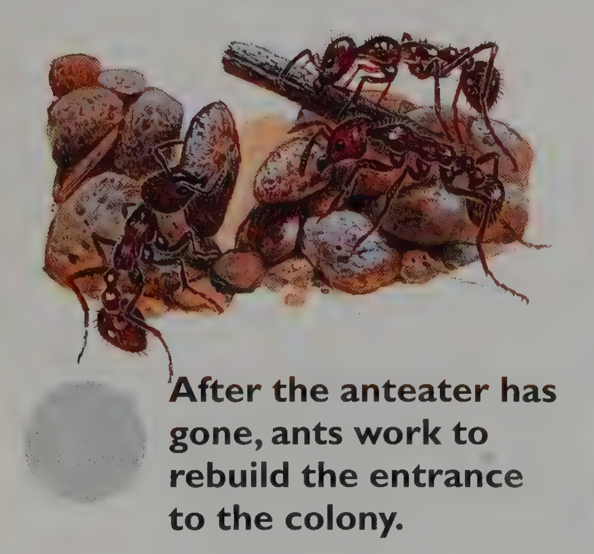


An ant doesn't carry food or other things with its legs. It uses its strong mandibles to lift and carry.

13 Ants know how to protect themselves and their colony.

The world is not always a friendly place for ants. A person or an animal might step on the entrance to an ants' colony.

Using the stickers on the sticker page, number the pictures below in the order that things happened.



After the anteater has gone, ants work to rebuild the entrance to the colony.



The anteater attacks the colony.

Some animals—woodpeckers, lizards, and frogs, for example—like to eat ants or their larvae.





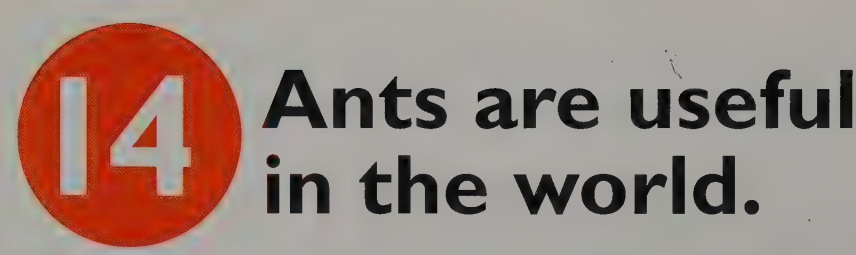
Ants inside the colony rush to move the cocoons to a safer chamber. Some ants stand guard in front of the queen's chamber.



An anteater approaches an ant colony. Anteaters live in Central and South America. They feed on ants and other insects. Their tongues are not only super long—they are sticky, too!

14 Ants are useful in the world.

It is true that ants can do harm. Sometimes they destroy plants. But ants do much good, too. Some ants eat the insects that kill trees. By doing this, they help save forests.



Look closely at a tree near your home. The tree could be in a forest, a backyard, or a park. Do you see any ants? What do they seem to be doing?

Together, many caterpillars can kill a tree. When ants eat the caterpillars, they allow the tree to grow.

The chambers and tunnels ants create when building their colonies break up and loosen the soil. This allows air to make its way underground. The air helps to enrich the soil, which is good for the plants that grow in it.


Count the number of ants
on the big caterpillar.
How many are there?



For many, many ants, winter is a long night's sleep.

All ants who live in cold places sleep through the winter. In spring, the sun warms the earth and the ants wake up.

It is late autumn. The ants are getting cold and begin to grow tired. They close up the opening to their colony.

These ants are hibernating. When animals hibernate, it is as if they are sleeping. They do not need to wake up to eat because they have enough food in their bodies to last them through the winter.



Find the stickers of the green, red, blue, and yellow ants. Place a green ant on the season when ants work the most. Place a red ant on the season when ants begin to get sleepy. Place a blue ant on the season when ants stay asleep. Now place a yellow ant on the season ants wake up and start all over again!

Answers

Pages 2–3: The crab, which has eight legs, is not an insect.

Pages 14–15: The baby ant is a lighter color than the adult worker ants.

Pages 20–21: A hungry ant taps a food gatherer on the head when it wants to eat.

Pages 22–23: The third ant in the column has five eyes.

Pages 24–25: An ant would not be able to carry a banana.

Pages 26–27: The order of the story is:

1. An anteater approaches an ant colony. Anteaters live in Central and South America. They feed on ants and other insects. Their tongues are not only super long—they are sticky, too!
2. The anteater attacks the colony.
3. Ants inside the colony rush to move the cocoons to a safer chamber. Some ants stand guard in front of the queen's chamber.
4. After the anteater has gone, ants work to rebuild the entrance to the colony.

Pages 28–29: There are five ants on the big caterpillar.

Pages 30–31: Green ant—summer. Red ant—fall. Blue ant—winter. Yellow ant—spring.

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I like ants
2
4
I know all about ants
I know all about ants
1
3
I like ants



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An Interactive Book of Science & Stickers

Step Into an Ant's World

1

Did you know that an ant can lift things much, much larger than itself? That male ants do not live longer than a month, while a queen ant might live to be 25 years old?

2

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